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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/275,568	03/24/1999	MICHAEL C. PITMAN	Y0998-112	9918

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EXAMINER

LY, CHEYNE D

ART UNIT

PAPER NUMBER

1631

DATE MAILED: 01/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/275,568

Applicant(s)

PITMAN ET AL.

Examiner

Cheyne D Ly

Art Unit

1631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 November 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 4-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 4-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

1. Applicants' arguments in Paper No. 10, filed November 13, 2002, have been fully considered but they are not deemed to be persuasive. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set presently being applied to the instant application.
2. It is acknowledged that claims 2 and 3 have been cancelled.
3. Claims 1 and 4-15 are examined on the merits.
4. FINAL REJECTION.

RESPONSE TO AMENDMENT

Priority

5. In order for the present application to receive benefit of priority for an invention to an earlier application, the earlier application (the parent or provisional application) must disclose the invention so as to be sufficient to comply with the requirements of the first paragraph of 35 U.S.C. 112 regarding said invention. See *Transco Products, Inc. v. Performance Contracting, Inc.*, 38 F.3d 551, 32 USPQ 2d 1077 (Fed. Cir. 1994). The specific claimed subject matter of the present application was not disclosed in the priority document (US 60079196). Therefore, the claim for domestic priority under 35 U.S.C. §119(e) has been denied.

Claim Rejections Under 35 U.S.C. § 101

6. Claims 1 and 4-15 are rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter. This rejection is maintained with respect to

Art Unit: 1631

Claims 1 and 4-15, as recited in the previous office action Paper No. 9, mailed August 08, 2002.

7. Applicant argues that the subject matter for the instant application is the generation and storage in a tangible medium such as a database residing in a memory. Therefore, the claimed invention is patentable subject matter. Applicant's argument has been acknowledged and found unpersuasive for the reasons below.
8. Applicant presents State Street Bank & Trust Co. v. Signature Financial Group Inc., 149 F. 3d 1368, 1374, 47 USPQ2d 1596, 1601-02 (Fed. Cir. 1998) to argue that Congress intended not to place any restrictions on the subject matter for which a patent may be obtained beyond those specifically recited in § 101. This argument has been found to be unpersuasive because U.S.C. 35 § 101 does set limitations on patentable subject matter. They are in the following statutory categories: new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement. The Federal Circuit courts further limit patentable subject matter to "the claimed invention as a whole must accomplish a practical application. That is, it must produce a "useful, concrete and tangible result." State Street, 149 F.3d at 1373, 47 USPQ2d at 1601-02. The purpose of this requirement is to limit patent protection to inventions that possess a certain level of "real world" value, as opposed to subject matter that represents nothing more than an idea or concept, or is simply a starting point for future investigation or research (Brenner v. Manson, 383 U.S. 519, 528-36, 148 USPQ 689, 693-96); In re Ziegler, 992, F.2d 1197, 1200-03, 26 USPQ2d 1600, 1603-06 (Fed. Cir. 1993)).

Art Unit: 1631

9. In addition, Applicant cites Diamond v. Chakrabarty, 447 U.S. 303, 309 (1980) to provide further support that Congress intended not to place any restrictions on the subject matter for which a patent may be obtained beyond those specifically recited in § 101. Federal courts have held that 35 U.S.C. 101 does have certain limits. First, the phrase “anything under the sun that is made by man” is limited by the text of 35 U.S.C. 101, meaning that one may only patent something that is a machine, manufacture, composition of matter or a process. See, e.g., *Alappat*, 33 F.3d at 1542, 31 USPQ2d at 1556; *Warmerdam*, 33 F.3d at 1358, 31 USPQ2d at 1757 (Fed. Cir. 1994). Second, 35 U.S.C. 101 requires that the subject matter sought to be patented be a “useful” invention. Accordingly, a complete definition of the scope of 35 U.S.C. 101, reflecting Congressional intent, is that any new and useful process, machine, manufacture or composition of matter under the sun that is made by man is the proper subject matter of a patent.
10. Specific to claim 1, the preamble recites “[i]n a data processing system wherein descriptor vectors associated with a plurality of regions of molecules are stored in a database.” A method for generating and storing data characterizing at least one region of said plurality of regions and the active supporting steps follow the said preamble. “[A] claim preamble has the import that the claim as a whole suggests for it...If the claim preamble, when read in the context of the entire claim, recites limitations of the claim, or, if the claim preamble is necessary to give life, meaning, and vitality’ to the claim, then the claim preamble should be construed as if in the balance of the claim. Further, any terminology in the preamble that limits the structure of the claimed invention must be

treated as a claim limitation” (MPEP § 2111.02). The preamble of claim 1 is interpreted as the controlling force of the whole claim, therefore, determines the claimed subject matter, since it recites limitations of the claim.

11. Because the preamble recites “[i]n a data processing system wherein descriptor vectors associated with a plurality of regions of molecules are stored in a database,” it is a *prima facie* case where the claim directs operations “in” a data processing system wherein descriptor vectors associated with a plurality of regions of molecules are stored in a database. An invention where a system merely stores data such as descriptor vectors associated with a plurality of regions of molecules onto a media is considered to be non-statutory subject matter because the said data is considered to be nonfunctional descriptive material. Descriptor vectors associated with a plurality of regions of molecules are merely stored so as to be read or outputted by a computer without creating any functional interrelationship, either as part of the stored data or as part of the computing processes performed by the computer, then such descriptive material alone does not impart functionality either to the data as so structured, or to the computer.
12. Therefore, “[m]erely claiming nonfunctional descriptive material stored in a computer-readable medium does not make the invention eligible for patenting...The mere fact that the claim may satisfy the utility requirement of 35 U.S.C. 101 does not mean that a useful result is achieved under the practical application requirement. The claimed invention as a whole must produce a “useful, concrete and tangible” result to have a practical application” (MPEP § 2106 (II)).

Art Unit: 1631

13. Claims 1 and 4-15 are rejected because the claimed invention is directed to non-statutory subject matter.

Claim Rejection Under 35 U.S.C. § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in:

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

14. Claim 1 is rejected under 35 U.S.C. 102(e)(2) as being anticipated by Platt et al. (US PN 5,784,294A). This rejection is maintained with respect to claim 1, as recited in the previous office action Paper No. 9, mailed August 08, 2002.
15. Platt et al. discloses “a computer-based method and system that describes molecules” (abstract) that stores an entry comprising a molecular descriptor with a “key” to access it within (see figure 9). Further, Platt et al. teaches storing said first and second descriptors of each molecule in said series of molecules in a database for subsequent processing to thereby identify correspondence between molecules in said series of molecules (Claim 34, Lines 39-42). It is inherent that a database would have a “key” or a unique identifier for information retrieval. The descriptor is based upon property distribution and is “independent of the position and orientation of the molecule in space” (column 3, lines 43-44), thus independent of rotation and translation. “More specifically, one or more

parameters representing the biological properties of the molecules of the training set and the descriptors associated with the molecules of the training set are placed in a table. As illustrated in FIG. 10, preferably, the rows of the table correspond to the molecules of the training set wherein each parameter associated with the molecules is allocated a column of the table, and each descriptor D1, D2, D3, . . . DN associated with the molecules is allocated a column of the table. Corresponding descriptors are also determined for the second set of molecules having unknown biological properties, and then placed into the table. The parameters and descriptors of the table may be viewed as a system of equations" (Column 16, lines 30-42). Platt et al. teaches the "applying a mapping to the descriptor vector associated with said at least one region based on preselected criteria" by using some criteria for selecting the molecules of the training set to be placed in a table. Further, Fig. 10 teaches a table for storing entry of molecules associated with their respective descriptors and biological parameters. Each row of information is accessible by the unique identifier of each molecule. The table of Fig. 10 is a type of data structure that is consistent with the limitation of "key indexes the entry for retrieval thereof."

Claim Rejections Under 35 U.S.C. § 112

16. Claims 1 and 4 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. THIS IS A NEW MATTER REJECTION.

Application/Control Number: 09/275,568

Art Unit: 1631

17. Specific to claim 1, line 9, the introduction of "based on preselected criteria" is considered to be new matter because it is not disclosed in the pointed support on page 40, line 21, of the specification.
18. Specific to claim 1, line 13, the introduction of "such that the key indexes the entry for retrieval thereof" is considered to be new matter because it is not disclosed in the pointed support on page 40, line 21-26, of the specification.
19. Specific to claim 4, line 2, the introduction of "computed from a convolution with a probe" is considered to be new matter because the phrase has not been found in the specification, as filed.
20. Claims 1 and 4-15 are rejected under 35 U.S.C. § 112, Second Paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. This rejection is maintained with respect to claims 1 and 4-15, as recited in the previous office action Paper No. 9, mailed August 08, 2002.
21. Claim 1 is vague and indefinite due to the lack of clarity in the claim language of the preamble. It is unclear as to what the applicant has intended to claim: a data processing system or a method for generating and storing data (See paragraph 6 of this instant action). Claims 4-15 are rejected for being directly or indirectly dependent from claim 1.

CONCLUSION

22. NO CLAIM IS ALLOWED.

Art Unit: 1631

23. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).
24. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.
25. Papers related to this application may be submitted to Technical Center 1600 by facsimile transmission. Papers should be faxed to Technical Center 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993) (see 37 CFR § 1.6(d)). The CM1 Fax Center number is either (703) 308-4242 or (703) 305-3014.
26. Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. Dune Ly, whose telephone number is (703) 308-3880. The examiner can normally be reached on Monday-Friday from 8 A.M. to 4 P.M.
27. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Woodward, Ph.D., can be reached on (703) 308-4028.

17. Specific to claim 1, line 9, the introduction of "based on preselected criteria" is considered to be new matter because it is not disclosed in the pointed support on page 40, line 21, of the specification.
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CONCLUSION

22. NO CLAIM IS ALLOWED.